

# The study of behavioral financial effect on individual investment

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## Abstract

Behavioral finance is a study of the markets that draws on psychology, throwing more light on why people buy or sell the stocks and even why they do not buy stocks at all. This research on Investor behavior helps to explain the various ‘market anomalies’ that challenge standard theory. This is because this anomaly is persistent. Therefore, this behavior exists. Behavioral finance models often rely on a concept of individual investors who are prone to judgment and decision-making errors. There are relatively low-cost Measures to help investors make better choices and make the market more efficient. These involve regulations, investment education, and perhaps some efforts to standardize mutual Fund advertising. Moreover, a case can be making for regulations to protect foolish investors by restricting their freedom of action of these that may prey upon them. In west economy literature, human entity is defined as a rational creature which decides under fully clear conditions. This perfect creature which is often referred as economic human is always successful on optimizing his interests and gathers all information which is influential in his options and decisions and creates an ideal opportunity which is not found in real world of many investors. Important aspects of rationality factors include maximizing expected means and Bayesian learning, when investors diagnose behavioral and conceptual errors related o decision making they can do better in their decision making. Understanding these cases help investors to design an optimized investment strategy and reach their purposes. In traditional financial theory, it is assumed that agents are rational and a stable price is presented. Important aspects of rationality factors include maximizing expected means and Bayesian learning. From market view, traditional financial theory is based on unit price rule which states that stocks have the same price with this final result.

Financial behavior is a theory which describes financial problems using cognitive psychological theories. This theory not only questions modern financial theories like efficient markets but also has doubts about maximizing and rationality expectations.

**Keywords:** financial-behavioral, efficient, market, rationality

## Introduction

According to economic theorists’, investors think and behave “rationally” when buying and selling Stocks. Specifically investors are presumed to use all available information to form “rational EconomyExpectations” about the future in determining the value of companies and the general health of the Economy. Consequently, stock prices should be accurately reflect fundamental values and will only move up and down when there is unexpected positive or negative news, respectively. Thus Economists have concluded that financial markets are stable and efficient, stock prices follow a “Random walks and the overall economy tends toward “general equilibrium”.

In reality however, according to Shiller (1999) investors do not think and behave rationally. To The contrary, driven by greed and fear, investors speculate stocks between unrealistic highs and Lows. In other words, investors mislead be extremes of emotion, subjective thinking and the Whims of the crowd, consistently form irrational expectation for the future performance of Companies and the overall economy such that stock prices swing above and below fundamental Values and follow a somewhat predictable, wave-like path.

Behavior of investors is a part of academic discipline known as “financial-behavioral” which states how feeling and cognitive errors influence investors

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and their decision-making. It is long time that the behavior of individual investors is interested academias and managers of securities, but not investors because sometimes mentality of public dominates rationality. Behavior of people is caused by the involuntary intellectual interaction in individuals who

react to others' behavior signals (Proctor, 1999).

Various researchers had studied financial-behavioral models in financial markets during last three decades. Below table presents several financial-behavioral model and their findings which are studied by researchers.

**Table 1. Behavioural Financial Models**

Researcher	Year	Models	Model's findings and predictions
Barbrease, Hang	2001	Intellectual accounting, preference theory	Spending capital, effects of growth/ value, fluctuations
Barbrease, HangmSentus	2001	Preference theory, effects of monetary unit	Predictions of time overhead of stock return
Jervis and Oden	2001	Overestimated self-confidence	High volume of exchange after success in investment
Hairshifler and Lu	2001	Overestimated self-confidence	Study of investors' self-confidence in competitive stock markets

### *Definition of financial-behavioral*

Behavioral finance is a study of the markets that draws on psychology, throwing more light on why people buy or sell the stocks and even why they do not buy stocks at all. This research on Investor behavior helps to explain the various 'market anomalies' that challenge standard theory. This is because this anomaly is persistent. Therefore, this behavior exists. One of the most vital research programs for modern financial knowledge which is at the top of ejection of efficient markets theory is financial behavior theory which is a common attempt between financial sciences and social sciences and has deepen our knowledge from financial markets. Behavioral revolution which is initiated in 1980s is about the question of origins of fluctuations in financial markets, discovered numerous anomalies and tried to combine financial theories like Cohnman futuristic theory and Teeversky in 1979 and psychologists' theories.

### *Financial-behavioral and behavior of investors*

Behavior of investors has important and increasing influence in valuing rights of owners. Therefore, it is necessary to consider this factor when studying changed related to accounting information regarding valuation and profitability in decision making and avoidance of misleading results.

Stabilization is a process (Yeats, 1990) is a phenomenon in which, in the absence of better information, investors think that prices are right. In a perfect market, for example, every new right is stabilized by approaching

recent record and date of far past becomes increasingly irrelevant. People intend to overemphasize recent experience and estimate recent trend which is often in countered with long term mean and probabilities.

Market with high or low sensitivity (Dibandet and Taller, 1985) is a result of investors which emphasize on recent news in price of other information. People show overestimated self-confidence. They intend to be more optimists when prices are high and more pessimists when prices go down. Therefore, in a bad environment, prices severely come down. Most investors think they can beat specified prices but evidences show that they can't. Based on Conman and Odeon (1999) study on the sale behavior, it was shown that when an investor sales a stock and immediately buy other stocks, he performs 3.4% better in next year. They also indicate that individuals are opt for "cognitive illusions" like becoming wealthy or exiting market before the explosion of bubble. They exaggerate in skill and deny chance in the process of decision making. People are often unaware of risks, they add hatred of loss to this mix and it is not surprising that on average every investors fears depression of market, when there is likely to buy and sell. Therefore, theories of financial behavior are effective in two micro and macro levels:

1- Micro financial behavior: studies the behaviors or biases of investors and distinguishes them from rational economic factors in classic economy theory.

2- Macro financial behavior: identifying and describing anomalies in efficient markets' theory that behavioral theories could likely explain them.

### *Financial-behavioral and principles of efficient market*

An efficient market hypothesis (EMH) is dominated financial affairs for more than 30 years. Financial-behavioral is a new branch of financial knowledge. In macro level, financial-behavioral challenges classic financial theories especially efficient market theory. In micro level, it shows that in real world, behavior of investors is not consistent with the fundamental rationality assumption in classic financial and inclinations or cognitive biases and feeling of investors which are called behavioral biases have important role in economic decision making.

There are three basic theories which shape efficient market hypothesis. The first and most important principle is that investors are rational and valuable by securities notion. This is based on the idea that everyone becomes carefully informed from available accounting information before investment decision making. This principle relates to internal consistency. Every decision must be made systematically, so as these decisions were consistent with each other or with subject of the study. Third principle is that decision maker is always seeks his interests. Expected risky productivity model which is widely used in financial affairs is presented by von Newman and Morgenstern (1947) in Dibandet (1998).

### *Financial-behavioral and inflation*

Financial-behavioral deals with manner of individual's action in the framework of financial decision making process and interprets these actions based on the available theories and psychological concepts. An important point is that the more an individual has knowledge and skill in a domain, his confidence to knowledge increases. This is because economic analyses of some economists are very far from reality than analysis of public. They speak confidently of their error and have no doubt in their saying. This is one of the features of this inflated behavior and as a reason, it is said that over-estimated confidence is learnt and is not inherently in individuals. The other point is that men have high confidences than women and even the confidence of single men is more than married ones and this is perhaps because of presence of women with married men.

The first effect of over-confidence on investors is that they transact more. High transaction is not bad and if the analysis ability can cover transaction costs, there will be no problem. Barber and Odean (2000) concluded in their studies that high transactions lead to low annual return and this is because transaction costs for buy and hold strategy is lower than profit from fluctuations. Note that this is not related to investors one

by one but it is a mean of various investors groups. The other effect of over confidence is underestimating risk. Here is no room for scrutiny of various researches but portfolio of those people with more self-confidence is more risky than others and as a result they have balanced return with low risk. This is a brief description of behavioral inflation that people suffer from it. There are many types of these inflations and most of them result in paradoxical behaviors in individual. The basic problem is that investment consuler companies must determine amount of this inflations and limit of risk taking or for various investment baskets based on risk taking degrees and present to customers. Therefore, absorption of investment is easier and more efficient.

### *Financial-behavioral and neoclassic*

In 2005, Paul Samuelsson, one of the greatest economist of the time, has celebrated his 90<sup>th</sup> birthday. He was one of the founders of financial neoclassic theory and has predicted much advancement in financial-behavioral field. This means that financial behavioral and financial neoclassic have born simultaneously and they are sisters. In his article in 1937, Samuelsson which as 22 years old presented an interpretation of a model which is now available in everywhere and this model indicates maximizing current value of optimality considering budget constraints (Samuelsson, 1937).

In equation of objective function and constraint  $J$ , current value of instant optimality  $x$  is the consumption unit assumed with discounted rate,  $s$  wealth of individual in time 0,  $r$  rate of market interest and  $b$  is the death time. These equations and their variables are in all financial theories. It is interesting that Samuelsson was severely criticized when he has presented them in an article for the first time. His answers regarding his model predict important grounds in financial-behavioral which were followed in next decades. He pointed out that this model is a human behavior model consistent with time. If individuals review future days in maximizing problem in  $t$  time, he will not change his program. But what happens in reality is that individuals are not conformed to time and show attitudes toward life in present time, especially if that day as a particular day in their life.

Samuelsson presents evidences based on this reality that sometimes people try to control themselves by ignoring their decisions in future. He points to the behavior of human which creates absolute confidence using life insurances as mandate savings. There were similar points that were presented in nest decades with more details by Shafir and Richard in an article "theory of economic self-control" in 1981.

Weakness of human self-control is presented by considering personal saving rate which fluctuates without a clear reason and sometimes comes much down. It seems that people are vulnerable about their consent from providing future. Researchers try to balance the model using a series of important attitudes of behavioral economy to eliminate time inconsistency for preferences.

Vanstijn and Perlekh has presented a series of changes in model in 1992. They argued that exponential discount must be replaced with a general parabolic discount. David Libson has presented alternative optimality function in 1998: Similarity of this model to original model 1937 is clear. They are not consistent with time but their basic structure is same. Although Libson, Leo Vanstijn and Perlek models are observed widely in behavioral economy but they are indebted Samuelsson for their models.

Distinction between financial-behavioral and neoclassic financial is exaggerated. Financial-behavioral is not very different from neoclassic financial. Perhaps the best way for explaining their difference is that financial-behavioral has an electronic state and is more inclined to use other social sciences and is less related to appearance of models and more deals with evidences that explain real behavior of human.

### *Financial-behavioral theories*

There is huge psychology literature which proves with evidences that people commit systematic errors in their thought. They always decide easily, have high confidence and value current experience (agency), separate decision making which must be merged (intellectual accounting), mistake in individual problems (frame), tendency for slow changes (conservatism) and their regulations prevent losses and meet achievements.

Financial behavioral uses models that in them some next factors are rational because of regulations or wrong beliefs. In the case of regulations, it is assumed that people oppose losses, because they are bias Bayesians (statistical methods, probability, guess), there are wrong beliefs. Most of the basic financial-behavioral theories are concerned with a series of new concepts called "limited rationality", a term which is associated with Herbert Simon (1947, 1983). This term relates to cognitive limitations in decision making. As a result, behavior of human is built based on simplified methods and innovations (Torskey and Conman, 1974). This is consistent with the study of Slavy (1972) on risk taking behavior of investor. He found that human had limitations as a processor of information and showed

some judgment prejudices which guide people in the direction of extra information. Individuals are inclined to show extreme reaction to information (DeBandet and Thaler, 1985, 1987).

Shiller (1999) presented some key ideas in financial-behavioral including landscape theory, regret theory, stabilization, extreme and less sensitivity. Landscape theory by Conman and Torsky (1979, 1981, and 1986) showed that people give different answers to same situation depending loss theory. Generally, investors in loss landscape are anxious and are consent with likely achievements. Sometimes they face certain profit. Most of the investors escape from risk but in encountering certain loss they become risk takers. According to Common theory, investors hate losses. This hatred of losses means that they take more risks to avoid losses and increase gains. Hatred of losses explains this essential notion that although investors are optimists about predictions (this stock is certain), but they are inclined to lose less money than earn.

Regret theory (Laric, Bulls, 1995) is another theory which deals with feelings and reacts to judgment error. For example, investors avoid selling valueless stocks to prevent regret from bad investment and regret from loss. Shame may help the tendency of not selling investment that some researchers put forward this theory investors follow common wisdom to avoid regret when it was proved that they follow wrong decisions. Most investors find that buying public shares and rationalizing it for coming down is easy because others have that share and think of it. Buying share with a bad imagination is more difficult than rationalizing it.

### **Traditional and Behavioral Finance**

Traditional finance theory assumes that agents are rational and the law of one price holds. Important aspects of agents' rationality are maximization of expected utility and Bayesian Learning. This implies, for example, that choices are time-consistent. From a market perspective, traditional finance theory rests on the law of one price which states that securities with the same payoff have the same price. Arbitrageurs eliminate instantaneously any violations of the law of one price by simultaneously buying and selling these securities at advantageously different prices. Consider, for example, the shares of Daimler-Chrysler AG. They are traded simultaneously on the New York Stock Exchange (NYSE) and in Frankfurt (Extra) between 1:30 p.m. and 6:00 p.m. UTC. During these 4.5 hours, shares should trade for the same



prices on both exchanges adjusted for the current EUR-USD exchange rate. If these adjusted prices are different from each other, in arbitrageur would sell shares at the higher price at one exchange and would buy the same number of shares at the other exchange and would thus realize a risk-less profit (see Shleifer and Vishay (1997) for another example of arbitrage).

The key question is whether Agents' Irrationalities Finance researchers would not care. Even if some or even all market participants are irrational, it may be possible that the market absorbs (at last to some degree) these individual Irrationalities and thus prevent their impact on prices and allocation. Whether the market can average out irrationalities depends on the structure of the observed behavior: unsystematic Irrationalities can be absorbed more easily than systematic deviations from rational behavior.

## Conclusions

In fact, financial-behavioral includes a vast area of social sciences which present evident and real alternatives and was introduced in 90s as a new area in financial affair field, although establishment of financial-behavioral basis is traced to 150 years before. This approach studies psychological and sociological factors which influence financial decision making processes of people, groups and institutions. In other words, financial-behavioral is an attempt to describe manner of investment process and financial funding from human view. Research showed that financial-behavioral and recognizing its various aspects influences decision making of people and companies. Recognition of this field and analysis of causes in financial markets leads to recognition of capital market mechanisms and decision making models. For example, when investors diagnose behavioral and conceptual errors related to decision-making they can do better in their decision making. Understanding these cases help investors to design an optimized investment strategy and reach their purposes. In traditional financial theory, it is assumed that agents are rational and a stable price is presented. Important aspects of rationality factors include maximizing expected means and Bayesian learning. From market view, traditional financial theory is based on unit price

rule which states that stocks have the same price with this final result. Financial behavior is a theory which describes financial problems using cognitive psychological theories. This theory not only questions modern financial theories like efficient markets but also has doubts about maximizing and rationality expectations.

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